

Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

ory of subsidences. Immense masses of strata, subsiding into huge caverns or hollows beneath them, fragments of the lower strata were broken off and blown upwards by the force of the pent-up air and gases rushing through the cracks of the sinking strata, the weight of which continued more and more to compress them, so that the boulders of M. De Luc came from below, and not from above. This is also a gratuitous hypothesis; and as the localities of many boulders exhibit no signs of such subsidences and explosions, it has obtained few if any adherents. So far, then, it would appear that philosophers, though armed with all the powers of mind invigorated by study and sharpened by research, have fought in vain against the difficulties which like a rampart fence in this rugged problem. For a moment they have appeared illumined by the light of knowledge, and have then sunk into the darkness of ignorance. But though philosophy may yield, she never will despair. And now, having marshalled new forces for the combat, we shall see her, with brighter hopes and prospects, again renew the assault. To the consideration, therefore, of a widely different class of explanations, I shall proceed to direct attention in a second paper. J. E. P.

INTELLECTUALITY OF ANIMALS.—Father Bougeant, a Jesuit, was placed in confinement by his superior in the College of La Fleche, near Paris, for what he had written on the subject of the intellectuality of animals. His views, if not orthodox, were certainly curious and amusing, and there is a sprightliness in his mode of treating the subject, graceful at least in the Frenchman, if not conformable to the divine. The following observations, extracted from that section of his work which treats of the language of beasts, may amuse the reader:—"Our first observation upon the language of beasts is, that it does not extend beyond the necessaries of life. However, let us not impose upon ourselves with regard to this point. To take things right, the language of beasts appears so limited to us only with relation to our own; however, it is sufficient to beasts, and more would be of no service to them. Were it not to be wished that ours, at least in some respects, were limited too? If beasts should hear us converse, prate, lie, slander, and rave, would they have cause to envy us the use we make of speech? They have not our privileges, but in recompense they have not our failings. Birds sing, they say; but this is a mistake. Birds do not sing, but speak. What we take for singing is no more than their natural language. Do the magpie, the jay, the raven, the owl, and the duck, sing? What makes us believe that they sing is their beautiful voice. Thus, the Hottentots in Africa seem to cluck like turkey-cocks, though it be the natural accent of their language; and thus several nations seem to us to sing, when they indeed speak. Birds, if you will, sing in the same sense, but they sing not for singing's sake, as we fancy they do. Their singing is always an intended speech; and it is comical enough that there should be thus in the world so numerous a nation which never speak otherwise but tunably and musically. But, in short, what do these birds say? The question should be proposed to Apollonius Tyaneus, who boasted of understanding their language. As for me, who am no diviner, I can give you no more than probable conjectures. Let us take for our example the magpie, which is so great a chatterer. It is easy to perceive that her discourses or songs are varied. She lowers or raises her voice, hastens or protracts the measure, lengthens or shortens her chit-chat; and these evidently are so many different sentences. Now, following the rule I have laid down, that the knowledge, desires, wants, and of course the expressions of beasts, are confined to what is useful or necessary for their preservation, methinks nothing is more easy than at first, and in general, to understand the meaning of these different phrases."—*Dublin University Magazine.*

ATMOSPHERIC RESISTANCE ON RAILWAYS.—In Dr Lardner's third lecture on railways at Manchester, he detailed a variety of experiments made in order to ascertain the source of resistance. "He found that an enlarged temporary frontage constructed with boards, of probably double the magnitude of the ordinary front of the train, caused an increase of resistance so trifling and insignificant as to be entirely unworthy of account in practice. Seeing that the source of resistance, so far as the air was concerned, was not to be ascribed to the form or magnitude of the front, it next occurred to him to inquire whether it might not arise from the general magnitude of the train front ends, top and all. An experiment was made to test this. A train of waggons was prepared with temporary sides and ends, so as to represent, for all practical purposes, a train of carriages, which was moved from the summit of a series of inclined planes, by gravity, till it was brought to rest; it was next moved down with the high sides and ends laid flat on the platform of the waggons, and the result was very remarkable. The whole frontage of the latter, including the wheels and every thing, a complete transverse section of the waggons, measured 24 feet square, and with the sides and ends up, so as to present a cross section, it amounted to nearly 48 square feet. The uniform velocity attained on a plane of 1 in 177, without the sides up, was nearly 23 miles an hour; whereas, with the sides up, it was only 17 miles an hour; so that, as the resistance would be in proportion to the square of the velocity, other things being the same, there would be a very considerable difference, due to that difference of velocity. Then, at the foot of the second plane, while the sides were down, an undiminished velocity remained of 19½ miles an hour, whereas, with the sides up, it was reduced to 8½ miles an hour; so that a very extensive difference was produced. They would see at once that this was a very decisive experiment to prove that the great source of resistance was to be found in the bulk, and not the mere section or the form, whether of the front or the back of a train; but simply in the general bulk of the body carried through the air. It was very likely to arise from the successive displacements of a quantity of the atmosphere equal to the bulk of the body; or still more probably, from the fact of the extensive sides of the train; and indeed there was little doubt that the magnitude of the sides had a very material influence; for if they consider what is going on in the body of air extending from either side of a train of coaches, they would soon see what a mechanical power must be exercised upon it. Thus, when a train is moving rapidly, the moving power had not only to pull the train on, but it had to drag a succession of columns of air, at different velocities, one outside the other, to a considerable extent outside the train; and it did more, for it overcame their friction one upon the other; for as these columns of air were at different velocities, the one would be rubbing against the other; and all this the moving power had to encounter. This would go far to explain the great magnitude of resistance found, and its entire discordance with any thing previously suspected."

GILDING OF METALS BY ELECTRO-CHEMICAL ACTION.—M. de la Rive has succeeded in gilding metals by means of this powerful action. His method is as follows: he pours a solution of chloride of gold (obtained by dissolving gold in a mixture of nitric and muriatic acid) as neutral as possible and very dilute, into a cylindrical bag made of bladder; he then plunges the bag into a glass vessel containing very slightly acidulated water; the metal to be gilded is immersed in the solution of gold, and communicates by means of metallic wire with a plate of zinc, which is placed in the acidulated water. The process may be varied, if the operator pleases, by placing the acidulated water and zinc in the bag, and the solution of gold with the metal to be gilded in the glass vessel. In the course of about a minute, the metal may be withdrawn, and wiped with a piece of linen; when rubbed briskly with the cloth, it will be found to be slightly gilded. After two or three similar immersions the gilding will be sufficiently thick to enable the operator to terminate the process.—*Athenæum.*——[By referring to the article on the Electrotype which appeared in No. 20 of the Irish Penny Journal, the reader will be enabled clearly to understand the mode in which the gold is separated from the acid, which holds it in solution, and forced, or attracted, to deposit its particles upon the metallic surface; the solution of gold bearing in this case a precisely similar relation to the metal plate, as the solution of copper in the other.]

DEFINITION OF CHERUB.—A lady (married of course) was once troubled with a squalling brat, whom she always addressed as "my cherub." Upon being asked why she gave it that appellation, she replied—"Because that it is derived from cherubim, and the Bible says, 'the cherubims continually do cry.'"

Printed and published every Saturday by GUNN and CAMERON, at the Office of the General Advertiser, No. 6, Church Lane, College Green, Dublin.—Agents:—R. GROOMBRIDGE, Panyer Alley, Paternoster Row, London; SIMMS and DINHAM, Exchange Street, Manchester; C. DAVIES, North John Street, Liverpool; SLOCOMBE and SIMMS, Leeds; FRASER and CRAWFORD, George Street, Edinburgh; and DAVID ROBERTSON, Trongate, Glasgow.